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TRADE POLICY FOR THE SUBREGION - PAKISTAN, INDIA, BANGLADESH, SRI LANKA AND NEPAL - DURING THE 1980S*

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INTRODUCTION

It is well known that trade policy in the sub-region - India, Pakistan, Bangladesh, Sri Lanka and Nepal - has largely been oriented towards import substitution rather than export expansion. This predominant sentiment has to some extent been supported by certain vague notions about the inelasticity of supply with respect to the main exports of the region and also about the insufficiency of foreign demand for whatever export surplus can be generated.

Most of the problems that the sub-region faces now have arisen from a tendency to expect too much from trade policy by way of offering a solution to the balance-of-payments, industrialization, employment and economic growth problems at the same time. Unfortunately, as it turned out, the specific remedy chosen to achieve these objectives proved to be self-defeating in so far as quantitative restrictions - the primary instrument of trade policy in the sub-region during most of the 1950s and 1960s - obstructed economic growth via allocative ineffieicny and low savings rates, prevented a fuller employment of labour by inducing higher capital/output ratios in capital-scarce economies, and to a worsening of the balance-of-payments of these countries.

It is, therefore, essential that in the coming years the entire strategy of economic growth be looked at from a different angle. The present study is based on the value judgement that export-led growth may in the long run prove to be a better policy for achieving the objectives which the governments in the sub-region have tried to approximate through import-substitution policies. What then are the export potentialities of the sub-region is the basic question we have addressed ourselves to in this study. However, before we come to a detailed analysis of the export possibilities of the sub-region it may be interesting to have a brief look at the past experience of the sub-region with respect to trade policy.

A. PAST EXPERIENCE

The exact <u>form</u> of trade policy has a direct bearing on its efficiency with respect to the resulting pattern of resource allocation. As is well known, trade policy in the sub-region has been generally defined by QR regimes, which have exercised a decisive influence on domestic resource allocation, making tariffs redundant in many cases.[1/] The rates of exchange have been

/kept

1/ However, tariffs have been a very important source of government revenues.

kept mostly over-valued, which in turn necessitated reliance on the QR's. These policies have resulted in excessive effective protection being accorded the domestic industry. For instance the over-all effective protective rates for India were 313 (1961) and 271 (1963/64) for Pakistan, which is very high indeed.

There is now broad agreement that QR regimes, with over-valued rates of exchange, rank very low in the "optimality scale", and have in fact been counter-productive: they have led to an excessive import substitution, at the expense of fruitful (and even feasible) export expansion; a distorted pattern of allocation favouring sub-optimal plants; excessive capitalization and idle capacity, a capital/output ratio out of step with the resource allocation pattern of the country. All this has flowed from the basic plank of the QR regimes: ensure an inflow of cheap capital imports. And yet, by the very contradictory logic of QR regimes, capital good imports could not be optimized because much of the import bill was pre-empted by the secondary requirements for intermediate goods. Furthermore, the entire production structure, biased towards consumer goods, became highly sensitive to changes in the level of imports. However, the level of imports could not be optimized because it was related directly to export expansion, which the QR regimes discriminated against.

The excessive bias towards unfruitful import substitution of the QR regimes has been corrected, though only partially, by conscious export subsidization policies, like the Export Bonus Scheme (Pakistan) and the Import Entitlement Scheme (India), which were an effective devaluation of the nominal exchange rates. However, on the margin, the bias towards import substitution has been preserved mainly because the tax on imports has exceeded the subsidy to exports.[2/] Even when formal devaluations took place, equalizing the nominal export subsidy and the import tax, the effective subsidy to exports and the corresponding tax on imports have tended to be lower in the post-devaluation than in the pre-devaluation periods. At best, devaluation "regularized", except for government-sector imports and debt liabilities, the pre-existing situation. The problem was complicated by the QR regimes, because of the nuances of the import licensing system. In so far as imported goods are bought by the producers through commercial importers, devaluation affects cost of production only if it exceeds the size of the premium accruing to importers. However, this complication does

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2/ It needs to be emphasized that it is not the fact of import substitution, which to a certain extent is both desirable and inevitable, but its excessive nature which has been called in question.

not exist when import licenses are issued directly to industrial users. These peculiarities make it difficult to assess the effects of a given devaluation on the economy. The ultimate effect of devaluations, particularly on the exp[illegible] side, in the sub-region has, therefore, been either zero or even negative. Even when substantial devaluations took place (like the 1971 Pakistani devaluation) poor demand management policies, by and large, vitiated the results. As de Varies has pointed out, it is not the frequency of devaluations in developing countries which has been at fault - developing countries have devalued many more times than the developed countries - but rather the extent of such devaluations and the absence of adequate and well thought out back-up monetary and fiscal policies which are to blame for the disappointing results. Thus liberalization, in the sense of the official exchange rate becoming the main regulator of domestic resource allocation, has seldom taken place in the sub-region. And even when it did occur, this "happy" state proved to be ephemeral - a "relapse" taking the economy back to square on (this happened in 1968 for India).

In addition to these adverse allocative effects, the society had to bear excessive consumption cost without succeeding in attaining the savings targets, which were undermined by the QR regimes (although here the evidence is not conclusive). In general, economic growth suffered mainly through allocative inefficiency; and whatever growth did occur was secured at the cost of considerable unemployment and a grossly uneven distribution of income.

It is interesting to note that, despite the almost exclusive reliance on growth, even at the expense of ensuing distributive justice, the growth rates in the sub-region have been disappointing.

Table 1. Compound growth rates of GDP in the sub-region (1970-1975)

Country	Compound growth rates (in percentage)
Pakistan	3.2
India	2.7
Sri Lanka	2.7
Nepal	2.5
Bangladesh	0.7

Source: ESCAP, Economic and Social Survey of Asia and the Pacific, 1978

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It may be noted that even these growth rates, low as they are, tend to overstate the real performance of the economy because of the wide divergence between domestic prices, at which domestic output is valued, and international prices. Once that adjustment is made the growth performance of the region will appear to have been quite disappointing.

B. THE PLAN OF THE STUDY

In line with the considerations stated above, it is proposed to have a detailed look at the export-expansion possibilities of the sub-region. In order to analyse the problem adequately we have constructed an econometric model to generate a set of consistent estimates of the potentialities of export expansion for each of the countries of the sub-region, as well as for the sub-region as a whole. Two kinds of estimates have been provided in the study. The first set of estimates is based on the assumption that the trade policies continue to be the same as they have been in the past several years, and then to see how much exportable surplus could be pushed out if the commodities-producing sectors were growing at a specified rate. The second set of estimates show how much could the region export if appropriate export-promotion policies were pursued by the countries of the sub-region.

Unfortunately, it has not been possible to deal with the problem in all its complexity because of the non-availability of data on capital stock for most of the countries of the region. This has prevented us from working with a simultaneous equations ecomometric model which could have provided more satisfying answers, at least conceptually. However, the reduced form equation system, we have applied in this study, has proved to be an adequate second best solution to our problem.

The study has been divided into five chapters. The first chapter deals with certain methodological issues involved in the estimation procedure, while the second presents the estimated export functions for each of the country of the region individually as well as for the sub-region as a whole. On the basis of these functions, a set of export projections have been generated. These estimates have been presented in the third chapter. A brief analysis has been presented in the fourth chapter of the phenomenon of "inwardness" in the countries of this region and contains a policy recommendation for India, Sri Lanka and Nepal - the most inward-looking countries of the sub-region. A limited objective for these countries could be to become at least as outward-looking as Pakistan and Bangladesh have been. This is not

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much because Pakistan and Bangladesh have also been inward-looking, but not to the same degree as the other countries of the sub-region. So, as a first step, a useful approach would be for each country to come up to the same level of "inwardness". As a result, relatively speaking, the region as a whole should become more outward-looking than it has been in the past several years. The final chapter then summarizes the entire discussion and presents the main highlights of the analysis.

I. METHODOLOGICAL ISSUES CONCERNING EXPORT PROJECTIONS FOR THE SUB-REGION

Projections of any economic variable involve an element of error because changes in the economic activity are induced by a number of factors, not all of which can be accounted for. To complicate matters, some of these changes result from random factors influencing the economic system. The forecasting error is expected to be larger in the case of export projections because not only the national but also the international level of economic activity affects the level of exports. Our job, therefore, is to minimise the forecasting error by correctly specifying the structure of the model.

A. METHODS OF PROJECTIONS

Export projections may be obtained either by extrapolating past trends of exports[3/] or on the basis of a fully specified structural model. The first type of projections are interesting in the sense that they predict the level of exports on the assumption that the over-all "structure" - e.g., economic policies, growth rates etc. - does not undergo a significant change. However, it should be obvious that any recommendations to substantially increase the

/growth

3/ It may be useful at this point to note briefly the two basic extrapolation procedures. First is the compound growth rate formula. However, its utility is greatly diminished by the fact that the growth rates so computed are very sensitive to the choice of the base and the terminal years. Second, an exponential curve (also known as semi-log equation) is fitted to the data to obtain the growth rates. The fitted curve is of the form:

$$X_t = X_o e^{gt} \quad \ldots\ldots\ldots (1)$$

$$\text{or } \log X_t = \log X_o + gt = a + gt \quad \ldots\ldots\ldots (2)$$

where X is the level of exports
g = growth rate of exports
t = index for time.

Growth rates estimated by the exponential curve take into consideration the exports in all the years and are not very sensitive to changes in a particular year. Therefore, we shall rely mainly on the trend growth rates so estimated to extrapolate the exports.

growth of exports would inevitably involve a change in the "structure". In particular, the policy mix will have to be changed and growth rates adjusted suitably. The mechanical projections obtained through simple extrapolation will not do the trick.

It is, therefore, essential to develop procedures which can take account of these complications. An econometric model, preferably a simultaneous equation one, will be required to do the job. For example, if we are interested in exploring whether subsidizing the manufacturing sector in preference to the agriculture sector would lead to a higher level of exports, we shall have to resort to an econometric model which permits us to make export projections on the basis of the required intersectoral shifts in resource allocation. Export projections remain no longer a mechanical exercise but become endogenous to the entire system. Such an approach also permits us to trace out the effects of changes in the policy variables on the economic structure through a carefully-done sensitivity analysis.

B. SPECIFICATION OF THE STRUCTURE OF THE MODEL

We have, therefore, specified an econometric model to generate export projections for the sub-region, as well as for individual countries of the sub-region. For the sake of comparison, another set of projections have been generated via the mechanical extrapolation method. Furthermore, sensitivity analysis has been carried out to test the stability of the estimates coming out of the econometric model.

In specifying a structural econometric model, it should be noted that the exports of a country are determined by a large number of factors. The level of output in various sectors of production, consumption patterns, commercial policies of the government, the economic policies pursued by developed countries towards the developing countries, the level of economic activity at large, etc., are among such factors. However, not all these factors can be "accounted for" in the model because it is difficult to quantify certain variables. Even where quantification is possible the paucity of data and multicollinearity pose difficult problems, preventing the inclusion of important variables in the model. However, at the same time, all the essential variables must be included if forecasting has to have any meaning.

It should be noted, at the very outset, that exports and the output levels in various sectors of the economy are determined simultaneously. Exports are a function of the exportable surplus, which, in turn, is determined by existing production and consumption patterns. The reverse

/chain

chain of causation also holds: output levels in different sectors depends on the level of exports, which in effect constitutes an outward shift of the production frontier. A simultaneous-equations model should be used to obtain simultaneously estimates of value added and the corresponding level of exports to ensure that the resulting estimates are consistent.

C. THE SYSTEM OF EQUATIONS

Exports are determined by a number of factors. These factors include, among others, value added in different sectors of production - e.g., the agriculture and the manufacturing sectors - prices of exported goods and the level of economic activity in the rest of the world etc. Therefore, we may write:

$$X = F(V_a, V_m, UVI, X_w, t) \quad \ldots\ldots\ldots (3)$$

Where:

X = the level of exports

V_a = value added in the agriculture sector

V_m = value added in the manufacturing sector

UVI = unit value index

X_w = total world exports

t = time trend.

It may be noted that on the right hand side of the equation (3) appear value added in the agriculture and the manufacturing sectors which are themselves determined, to some extent, by the level of exports. In addition, two more equations are required to "close" the system with respect to the value added in the agriculture and the manufacturing sectors.

$$V_a = F_a(K_a, X, t) \quad \ldots\ldots\ldots (4)$$

and

$$V_m = F_m(K_m, M_{rm}, X, t) \quad \ldots\ldots\ldots (5)$$

Where:

K_a = capital stock in the agriculture sector; capital stock includes land;

K_m = capital stock in the manufacturing sector; and

M_{rm} = imports of raw materials used in the production of manufactured goods.

Equations (3) through (5) determine simultaneously the level of exports, output in the agriculture sector and output in the manufacturing sector. It should be obvious that the estimates obtained on the basis of

/equation (3)

equation (3) alone would suffer from a simultaneous equation bias.[4/] Unfortunately, this is what we had to do - rely on equation (3) to generate export projections - because the data on capital stock, even on investment, were not readily available for all countries of the sub-region. In the case of Pakistan, where investment data were available, two sets of projections, on the basis of equation (3) as well as on the basis of the structural model equations (3) through (5) (not reported in the text) were obtained. This was done to check on the reliability of the "partial-equilibrium" estimates for other countries. Fortunately, a comparison of the two estimates for Pakistan revealed that the simultaneous equation bias may not have been too large, after all. This should make the over-all estimates look more "respectable".

D. SOURCES OF DATA AND PROBLEMS OF ESTIMATION

In order to obtain export projections, via the system of equations noted above, we need data on exports, unit value index, world exports, value added in the agricultural and the manufacturing sectors and capital stock employed in the agricultural and manufacturing sectors. However, it is well known that for most of the developing countries capital stock data either do not exist or are too defective to be of much practical use. Hence export functions estimated through equation (3) are the second-best alternative because of the simultaneous equation bias. This is not too bad, because if exports do not form a large proportion of total output of a sector and/or if there is a lag between production and exports (a recursive model), then such a bias will be quite small. As far as the proportion of exports in total output is concerned, it may be noted that, in almost all the countries of the sub-region, exports form a very small proportion of the output in the manufacturing sector. However, the same is not true in the case of the agricultural sector. For example, exports of jute form a significantly large proportion of output in Bangladesh: while exports of cotton and tea are important for Pakistan and Sri Lanka respectively. However, in the case of agriculture, exports do not have a significant impact on the level of output because of the inevitable lag between production and exports.

Data on the value of exports, unit value index, value added in the agricultural and manufacturing sectors and world exports have been obtained

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4/ Equation (3) will provide a reasonable estimate only if the level of output originating in the two sectors, agriculture and industry, is not much affected by the level of exports - e.g. because exports depend on the output in a previous period or they form an insignificant proportion of total output.

from International Monetary Fund, International Financial Statistics. In the case of Bangladesh, where we had data at current prices, deflators were obtained from Bose[5/] and Siddiqui[6/] to arrive at value added at constant prices in the agricultural and manufacturing sectors.

The relationships have been estimated for the 15 years' period, 1960 to 1975. To obtain total exports of Pakistan and Bangladesh, we used the deflator suggested by Radhu[7/] to adjust for interregional trade during 1960-1971 period. Interwing trade data were obtained from different issues of the Pakistan Statistical Year Book.

II. EXPORT FUNCTIONS FOR THE SUB-REGION

It was pointed out in chapter I that projections of exports may be obtained either by extrapolating the past trends or on the basis of an econometric model which yields the estimates of the determinants of exports. Certain theoretical problems regarding the estimation were also discussed at some length in the last chapter.

In this chapter, we present estimated export functions for each of the countries of the sub-region. Furthermore, we relate some of the problems that were faced in obtaining reliable estimated functions. These problems arose mainly from the non-availability of data and the phenomenon of multi-collinearity. These problems along with estimates of coefficients which suffer, as well as those which do not suffer, from the problem of multi-collinearity form the subject matter of this chapter. The discussion of the problems of estimation has been included mainly for pedagogic reasons. It should also be useful for future researchers encountering similar problems.

A. PROBLEMS OF ESTIMATION

The three-equation econometric framework, outlined in the previous chapter, requires data on the value of exports, unit value indices, value added in the agricultural and manufacturing sectors, capital employed in the agricultural and manufacturing sectors, and world exports. However, we had to drop two variables, viz. capital stock in the agricultural and the manufacturing sectors, due to the non-availability of relevant data.

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5/ S.R. Bose, "The price situation in Bangladesh - a preliminary analysis", The Bangladesh Economic Review, July 1973, vol. I, No. 3, pp. 243-268.

6/ A.K.M. Siddiqui, "Money and inflation in Bangladesh", The Bangladesh Development Studies, January 1975, vol. III, No. 1, pp. 27-42.

7/ G.M. Radhu, "Trade between East and West Pakistan at world prices 1960-61 to 1969-70", The Pakistan Development Review, Summer 1973, pp. 148-155.

The estimates of the determinants of exports have been reported in tables 2 and 3 - those in table 2 correspond to linear, while those reported in table 3 have a log-linear form. These results show that, judging from the measure of the goodness of the fit, R^2, the results are very good. In most of the cases, R^2 exceeds 0.99! However, a glance at the signs of coefficient is sufficient to convince that the estimates are not acceptable, because in a number of cases, the sign is wrong. For example, with a linear form the results suggest a negative relationship between the growth of exports and the growth of value added in the agricultural sector in the case of India, Sri Lanka and Nepal. Similarly, tables 2 and 3 show a negative relationship between the growth of exports and the growth of value added in the manufacturing sector in case of India, Pakistan and Bangladesh. These results clearly suggest that projections based on such estimates will not be very reliable. It is therefore not possible, on the basis of such estimates, to isolate the effects of different variables on the growth of exports.

B. PROBLEM OF MULTICOLLINEARITY AND ITS SOLUTION

It should be noted, however, that the problem noted above arises because of multicollinearity. Values added in agriculture and manufacturing show an increasing trend over time and are always expected to be collinear because of this. The data on the five countries of the sub-region showed a very high degree of multicollinearity between the two variables. The correlation coefficient between value added in the agriculture and value added in the manufacturing exceeded 0.90 for most of the countries.

To get around the problem, we replaced the values added in the agriculture and in the manufacturing by the value added in the commodity-producing sector - i.e., value added in the agriculture plus value added in manufacturing and the share of manufacturing sector in the commodity production.[8/] By redefining the variables, one can hopefully overcome the problem of multicollinearity without sacrificing the essential relationship, because even after redefining the two variables we get an effect on exports by increasing the value added and changing the output mix. The adjusted estimates, obtained after redefining the variables, have been reported in table 4 using the linear form and in table 5 using the log-linear form.

The estimates reported in tables 4 and 5 show that the value of R^2 has improved slightly but the coefficients still suffer from multicollinearity.

/Table 2.

8/ This should solve the multicollinearity problem since the effect of this adjustment is to replace the two correlated variables by two new variables which are not correlated.

Table 2. Determinants of the level of exports
(Estimates of linear relationship)

Country	Intercept	Unit value index	Value added in agri-culture	Value added in manu-facturing	World exports	Time trend	R^2	F ratio	D.W.
Pakistan	-1.24	2.02 (2.34)	1.28 (3.47)	-2.46 (3.69)	-3.14 (6.73)	7.27 (2.05)	.97	60.73	2.09
India	-8.14	4.26 (4.82)	-2.62 (1.21)	-7.16 (4.13)	5.59 (1.88)	1.15 (1.06)	.997	539.90	3.05
Sri Lanka	7.72	6.40 (2.62)	-1.99 (1.40)	3.26 (8.54)	-1.41 (3.90)	8.99 (1.81)	.96	50.47	1.77
Bangladesh	-778.34	1.49 (0.80)	1.20 (2.98)	-2.21 (1.75)	0.001 (0.52)	11.74 (0.50)	.97	33.53	2.23
Nepal	54.40	-0.01 (-0.005)	-0.20 (-5.03)	1.64 (.23)	0.002 (1.08)	-0.68 (-0.21)	.99	40.29	2.50

Note: t values are reported in the paranthesis.

/Table 3.

Table 3. Determinants of exports
(estimates of log-linear relationship)

Country	Inter-cept	Unit value index	Value added in agri-culture	Value added in manu-factur-ing	World exports	Time trend	R^2	F ratio	D.W.
Pakistan	2.85	6.82 (1.93)	1.40 (9.65)	-1.71 (1.16)	1.11 (7.01)	2.13 (2.24)	.95	41.80	1.18
India	-1.01	6.68 (3.80)	1.40 (5.98)	3.80 (1.21)	1.17 (9.39)	6.37 (2.18)	.99	239.9	3.41
Sri Lanka	2.05	7.80 (2.62)	1.00 (3.15)	1.98 (1.16)	-6.68 (2.50)	-1.25 (4.16)	.95	32.58	2.02
Bangladesh	-2.97	0.48 (0.98)	-1.47 (1.00)	1.62 (0.94)	0.71 (0.00)	0.06 (1.50)	.97	28.87	1.47
Nepal	2.67	-0.20 (0.80)	3.35 (-2.86)	3.29 (4.19)	0.49 (1.66)	-0.02 (1.18)	.98	24.48	2.45

/Table 4.

Table 4. Determinants of exports (Value added in agriculture and manufacturing sector replaced by total commodity production and share of manufacturing in total commodity production)

(estimates of linear relationship)

Country	Intercept	Unit value index	Value added in commodity producing sectors	Share of manufacturing in total commodity production	World exports	Time trend	R^2	F ratio	D.W.
Pakistan	2,023.90	27.52 (1.91)	0.10 (0.55)	-10,860.0 (1.71)	-0.003 (0.86)	149.25 (2.49)	.975	39.56	1.45
India	248.88	42.13 (4.99)	-0.03 (1.61)	-1,477.0 (0.99)	0.005 (5.45)	103.21 (2.5)	.998	598.15	3.30
Sri Lanka	-56.76	5.72 (3.22)	0.10 (0.70)	440.99 (0.97)	0.0001 (0.33)	-4.016 (.54)	.980	52.93	1.89
Bangladesh	1,115.72	2.33 (1.15)	0.25 (1.08)	6,516.9 (-1.27)	-0.001 (-0.46)	43.53 (0.92)	.967	26.17	1.89
Nepal	-333.72	4.38 (1.10)	-0.12 (-0.58)	2,292.46 (2.08)	0.0 (-0.4)	-8.46 (-1.55)	.956	10.81	2.57

/Table 5.

Table 5. Determinants of exports (Value added in agriculture and value added in manufacturing replaced by total commodity production and share of manufacturing in total commodity production)

(estimates of log-linear relationship)

Country	Intercept	Unit value index	Value added in commodity producing	Share of manufacturing in total commodity production	World exports	Time trend	R^2	F ratio	D.W.
Pakistan	1.21	0.63 (1.26)	-0.43 (1.17)	-2.34 (1.19)	0.14 (0.11)	0.22 (2.28)	.977	41.56	1.19
India	-0.11	0.58 (3.60)	0.29 (0.83)	-0.02 (0.10)	0.21 (1.87)	0.01 (0.40)	.997	265.10	3.24
Sri Lanka	2.07	0.80 (2.88)	0.26 (0.70)	0.19 (1.14)	-0.06 (0.22)	-0.01 (0.40)	.973	32.65	2.05
Bangladesh	-3.97	0.39 (0.84)	0.50 (0.41)	3.17 (1.47)	0.93 (0.82)	0.07 (1.89)	.973	32.31	1.54
Nepal	4.23	2.05 (0.59)	-1.29 (0.67)	3.18 (2.05)	0.13 (0.26)	-0.01 (0.35)	.946	8.51	2.56

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This is so because, although we have been able to avoid multicollinearity between value added in the agriculture and value added in the manufacturing sector, the total commodity production, world exports and time trend are collinear. Hence, a further adjustmnet was carried out by excluding few more variables from the equation. We decided to exclude world exports and time trend instead of total commodity production from the equation because we were primarily interested in looking at the effects of changes in the government policies on exports. The exclusion of the two variables helped us in finally overcoming the problem of multicollinearity.

The final estimated functions are given in tables 6 and 7. It should be noted that even with this exclusion the value of R^2 has not been lowered. This is because the excluded variables were highly collinear with the value added in the commodity producing sectors. Furthermore, an additional advantage of this adjustment has been to yield correct signs of the coefficients.

The negative sign of the coefficient of share of manufacturing in commodity output in some cases needs explanation. The sign will be negative, if the increase in the manufacturing output is meant to substitute imports implying, on the margin, a diversion of resources from the export industries. On the other hand, if the increments in manufacturing output were export oriented then a positive relationship would have emerged. In the case of Pakistan and Bangladesh, this coefficient has a negative sign, while in case of India, Sri Lanka and Nepal the sign is positive (see table 6). In the case of Pakistan and Bangladesh major industries like cotton and jute textiles, are based on the indigenous raw materials, which were formerly exported. To the extent that the output of these industries was predominantly meant for domestic consumption (import substitution), over-all exports must have been reduced, despite the fact that at a later stage of their establishment, a portion of the manufactured textiles came to be exported.

/Table 6.

Table 6. Determinants of exports (world exports and time trend are excluded from the set of explanatory variables)

(estimates of linear relationship)

Country	Intercept	Unit value index	Value added in the commodity producing sector	Share of manufacturing in total commodity production	R^2	F ratio	D.W.
Pakistan	452.9	3.28 (0.36)	0.25 (2.55)	-3,514.2 (0.076)	.957	43.60	1.19
India	-1,992.0	55.65 (3.71)	0.03 (2.25)	3,665.6 (1.49)	.992	228.90	2.09
Sri Lanka	-9.5	5.71 (4.10)	0.04 (0.59)	235.55 (0.90)	.983	103.25	1.93
Bangladesh	420.36	1.19 (0.76)	0.26 (2.73)	-3,281.84 (1.26)	.956	39.66	1.64
Nepal	215.32	0.52 (0.16)	-0.01 (0.07)	2,244.67 (1.98)	.935	16.13	1.94

/Table 7.

Table 7. Determinants of exports (world exports and time trend are excluded from the set of explanatory variables)

(estimates of log-linear relationship)

Country	Intercept	Unit value index	Value added in the commodity producing sectors	Share of manufacturing in total commodity production	R^2	F ratio	D.W.
Pakistan	-5.23	0.30 (0.84)	1.32 (2.81)	0.51 (0.32)	.963	51.33	1.20
India	-0.79	0.67 (4.50)	0.60 (5.69)	0.17 (1.11)	.995	385.39	3.00
Sri Lanka	2.28	0.86 (4.79)	0.06 (0.48)	0.11 (1.22)	.972	63.90	2.06
Bangladesh	3.11	0.58 (1.39)	1.29 (2.85)	0.17 (0.12)	.961	44.78	1.55
Nepal	5.24	1.95 (0.93)	-1.32 (0.85)	3.29 (2.51)	.943	18.98	2.26

/III.

III. EXPORT PROJECTIONS FOR THE SUB-REGION: 1980-2000

A. INTRODUCTION

In the last two chapters we discussed the problems encountered in the estimation of export functions and reported the estimates of the determinants of exports. In the present chapter, we have used these estimates, based on tables 6 and 7 to generate export projections for the period 1980 to 2000. A second set of export projections, based on extrapolating the past trends in exports, have also been presented to highlight the significance of adopting adequate export promotion policies. Furthermore, export projections have been presented for the individual countries in the sub-region India, Pakistan, Bangladesh, Sri Lanka and Nepal as well as for the sub-region as a whole.

Export projections by extrapolation have been obtained on the basis of the three alternative growth rates of exports, viz. annual compound growth rates for exports over 1960 to 1975 and 1970 to 1975, and trend growth rates over 1960-1975. To compute annual growth rates, we chose two base years, because of the extreme sensitivity of growth estimates to the choice of the base.

Table 8. Compound growth rate of exports

Country	Annual compound growth rates: 1960-1975	1970-1975	Trend growth rates:
Pakistan	9.80	8.69	12.04
India	4.32	4.81	3.87
Bangladesh	4.30	8.39	6.00
Sri Lanka	1.39	negative	0.89
Nepal	1.62	7.83	1.03

It may be seen from the above table that a change of the base has a significant effect on the growth rates of exports. For this reason alone projections made on the basis of a trend rate of growth should be preferred as being more reliable. Trend growth rates, reported in column III, have been estimated by fitting an exponential curve to the export data for the period 1960 to 1975 (see chapter I, footnote 1).

/To

To project exports on the basis of export functions, reported in table 6, data were required on the expected levels of value added in agricultural and manufacturing sectors, and trends in unit value index over the period 1980 to 2000. However, we were unable to forecast any trend in the unit value index, determined as it was by a number of factors both national and international. Hence, it was assumed that the unit values of 1975 would continue to remain relevant in the future as well. As such, the projections reported below are at constant prices of 1975.

B. EXPORT PROJECTIONS: 1980-2000

We have chosen two estimates of expected value added in the agricultural and manufacturing sectors. In the first set, growth rates over the period 1960-1975 have been used; while the second set employs growth rates over the period 1970-1975. Export projections have been obtained from the export functions reported in table 6 as well as by extrapolation. These projections have been made for each of the five countries of the sub-region as well as for the sub-region as a whole.

Export projections for Pakistan, India, Bangladesh, Sri Lanka and Nepal are presented in tables 10 through 14; and for the sub-region as a whole in table 9. The first two columns of each table show the projected levels of exports on the implicit assumption that the "structure" of the system prevailing from 1960 to 1975 remains more or less unchanged and that the agricultural and manufacturing sectors will continue to grow at the "historic" rates. The projections reported in the first column of each of these tables correspond to the growth rates of agricultural and manufacturing sectors over 1960-1975 period; while those reported in the second column use the growth rates over the 1970-1975 period.

Levels of exports projected by extrapolation are shown in columns III through V of each of these tables. The third column has been computed by extrapolating the value of exports at the annual compound growth rate observed during 1960 to 1975 period. Similarly, to derive the fourth column we have used annual compound growth rates during 1970-1975 period; while projections obtained by extrapolating exports at a trend growth rate (estimated by fitting exponential curve) over 1970-1975 period have been reported in the fifth column.

/After

After this brief introduction to the tables, we now turn to an analysis of the projected figures for the sub-region as a whole and then for each individual country of the sub-region.

C. PROJECTIONS FOR THE SUB-REGION AS A WHOLE

As is well known, all the five countries in the sub-region have pursued import-substitution policies both to promote growth rates as well as to overcome their balance-of-payments problems. These policies have introduced a distinct bias against export expansion. The magnitude of this bias has varied across the countries and over the years. Whereas the domestic markets were very heavily protected, exports from the region were not provided sufficient incentives. As a result, the growth of regional exports has been diappointing. Over the 1960-1975 period, exports of the region grew at a trend rate of 8.1 per cent (table 9).

Table 9. Projections of exports at 1975 prices for sub-region (in million US dollars)

Year	Based on estimates of econometric model using growth rates of agricultural and manufacturing sectors for the period		Extrapolated at annual compound growth rates for the period		Extrapolated by time trend during
	1960-1975	1970-1975	1960-1975	1970-1975	1960-1975
1980	15,398.86	14,586.85	16,170.96	16,757.40	17,687.26
1981	15,868.03	14,868.03	14,869.69	17,057.40	18,868.33
1982	16,356.49	15,159.94	18,002.56	18,832.10	20,155.37
1983	16,876.99	15,465.84	19,010.71	19,977.70	21,559.61
1984	17,416.18	15,791.45	20,086.69	21,202.40	23,102.34
1985	17,990.82	16,127.50	21,235.98	22,512.30	24,770.45
1986	18,600.89	16,486.95	22,464.34	23,913.70	26,606.68
1987	19,241.88	16,858.71	23,778.15	25,413.20	28,619.19
1988	19,913.19	17,243.29	25,184.20	27,018.40	30,827.49
1989	20,627.77	17,659.97	26,689.90	28,736.90	33,553.09
1990	21,381.91	18,090.11	28,303.63	30,577.50	35,919.69
1991	22,175.07	18,542.46	30,034.01	32,540.20	38.854.68
1992	23,016.58	19,017.86	31,890.97	34,661.90	42,087.62
1993	23,903.23	19,521.56	33,884.84	36,926.70	45,652.22
1994	24,844.51	20,053.69	36,026.95	39,354.70	49,876.12
1995	25,834.73	20,604.11	28,330.26	41,958.60	53,930.42
1996	26,884.66	21,190.17	40,808.13	44,760.80	58,732.57
1997	27,998.66	21,814.18	43,475.53	47,748.90	64,044.50
1998	29,174.24	22,461.21	46,348.85	50,965.90	69,924.75
1999	30,417.70	23,149.55	49,445.69	54,419.70	76,438.39
2000	31,742.57	23,873.26	52,785.45	58,128.40	83,658.59
Implied growth rates:	3.7	2.5	6.1	6.4	8.1

/In

In table 9 we have reported regional export projections by summing up those for individual countries. The first and second columns of this table show exports expected over 1980 to 2000 period, subject to the provision that trade policies do not change significantly. The first column shows that under these assumptions, exports are expected to grow over the period at a rate of 3.7 per cent per annum. The excess of the trend growth rate of 8.1 per cent observed, during the period 1960-1975, over the rate of 3.7 per cent generated by the econometric model, can be used as a proxy to explain the favourable influence of trade policies on export expansion in the absence of an explicit variable to account for changes in the size of the export subsidy.9/

D. PROJECTIONS FOR INDIVIDUAL COUNTRIES

1. Pakistan

During the 1950s, Pakistan exported mainly primary commodities, which formed about 93 per cent of her total exports. This was due partly to a very small industrial base, but the important factors, in the long run, proved to be the absence of export incentives vis-à-vis those for import substitution. The import licensing system, which was the dominant policy instrument regulating foreign trade, discriminated against export expansion. To off set this bias, the Government adopted various incentive measures, the most important of which was the Export Bonus Scheme (discontinued in 1971). The effect of this Scheme was a partial devaluation of the Pakistani Rupee. As a result, export of manufactured goods rose sharply and, by the end of the 1960s, formed about 60 per cent of the total exports. (Part of this increase was also due to on over-all expansion of the export sector at a rate of about 10 per cent per annum).

It may be noted that the first column of table 10 shows a higher growth rate of exports than that indicated by the second column. This has been a direct reflection of lower growth rates of agricultural and industrial sectors observed during 1970-1975 period.

The first column of table 10 shows an export growth rate of 5.4 per cent which is quite low compared with the trend growth rate of 12.04 per cent during 1960-1975. The comparison clearly shows the importance of various Government policies leading to higher export growth rates. It

/Table 10.

9/ Exports subsidies have not been included as a separate explantory variable in the model, partly because of the non-availability of data, but mainly in order to avoid collinearity. There has been a gradual increase in the level of export subsidy over time in all the countries. Hence a separate subsidy variable will exhibit time trend.

Table 10. Projections of exports for Pakistan at 1975 prices (in million US dollars)

Year	Based on estimates of econometric model and using growth rate of		Extrapolation at the annual compound growth rate of		Extrapolated by time trend during
	1960-1975	1970-1975	1960-1975	1970-1975	1960-1975
1980	3,343.04	2,796.87	5,873.6	3,772.8	4,173.62
1981	3,506.98	2,826.52	6,580.7	4,142.5	4,676.12
1982	3,678.30	2,853.37	7,373.0	4,548.5	5,239.13
1983	3,864.69	2,880.91	8,260.8	4,994.2	5,869.92
1984	4,059.86	2,912.69	9,255.4	5,483.6	6,576.66
1985	4,268.08	2,941.71	10,369.7	6,021.0	7,368.49
1986	4,494.35	2,974.97	11,618.2	6,611.1	8,255.66
1987	4,730.66	3,005.46	13,017.0	7,259.0	9,249.64
1988	4,983.33	3,036.77	14,584.3	7,970.4	10,363.29
1989	5,252.78	3,072.36	16,340.3	8,751.4	11,611.03
1990	5,540.07	3,105.26	18,037.6	9,609.1	13,009.00
1991	5,846.40	3,138.97	20,511.9	10,550.8	14,575.28
1992	6,172.95	3,173.54	22,981.5	11,584.8	16,330.15
1993	6,521.99	3,212.47	25,748.5	12,720.1	18,296.29
1994	6,892.24	3,248.79	28,848.6	13,966.6	20,499.17
1995	7,287.91	3,285.99	32,321.9	15,335.4	22,967.27
1996	7,709.71	3,324.10	36,213.5	16,838.2	25,732.52
1997	8,159.41	3,366.69	40,573.6	18,488.4	28,830.72
1998	8,638.83	3,406.70	45,459.7	20,300.2	32,301.94
1999	9,142.94	3,447.69	50,931.9	22,289.7	36,191.09
2000	9,694.99	3,489.69	57,064.1	24,474.0	40,548.50
	Assumption regarding growth rate				
Value added in agri.	3.6	0.7			
Value added in mfg.	7.4	2.3			
Implied growth rates	5.4	1.16	9.8	8.69	12.04

follows that if the Government fails to adopt vigorous export promoting policies, but is successful in realizing the growth rates of agricultural and manufacturing sectors, exports would grow at the rate of 5.4 per cent per annum (col. 1). However, if, on the other hand, government does adopt a conscious policy to promote exports, the economy would be able to achieve a growth rate of 12.0 per cent per annum (col. 5).

/The

The comparison of first two columns with the last three columns of table 10 brings out clearly the significant differences between two sets of projections, i.e., one set based on the econometric model while the other obtained by extrapolating past trends. This differential is sufficient to establish the important point that mere growth of output and changes in the output mix will not produce sufficiently high growth rates of exports to meet the increasing need for imports. High growth rates of exports experienced in Pakistan were mainly due to export policies which favoured exports over import substitution.

2. Bangladesh

Policies pursued up to 1971 in Bangladesh were exactly the same as those followed in Pakistan. However exports from Bangladesh grew at a lower rate of 6.0 per cent per annum because of many factors. Inelastic demand for the major exports of Bangladesh, jute, and relatively lower growth rate of agricultural and manufacturing sectors contributed to the observed slower growth of exports.

Looking into the future, table 11 shows that, if the agricultural and manufacturing sectors grow at the historical rates and the "structure" remains unchanged, exports will grow at about 5.4 per cent per annum, which is slightly lower than the trend growth rate of 6.0 per cent observed during 1960-1975 period. However, an increase in the growth rates of agricultural and manufacturing sectors coupled with vigorous export drive can lead to high export growth rates.

3. India

Indian exports over the 1960-1975 period grew at a rate of only 3.87 per cent. This lower rate of growth resulted from a strong bias in India favouring import substitution by comparison with export expansion. A relatively slower growth of the agricultural and manufacturing sectors, which grew at 2.5 and 4.0 per cent respectively, has also been responsible for the sluggish growth of India exports

Assuming the historical growth rates of agricultural and manufacturing sectors, and that the structure of economic system remains the same, exports are expected to grow only at 1.4 per cent, which is significantly lower than the observed trend growth rate of 3.87 per cent over 1960-1975. This clearly suggests that Indian Government should follow conscious export-promoting policies in the future.

/Table 11.

Table 11. Projections of exports for Bangladesh at 1975 prices
(in million US dollars)

Year	Based on estimates of econometric model and using growth rate of	Extrapolated at the annual compound growth rate on		Extrapolated by time trend during
	1960-1975	1960-1975	1970-1975	1960-1975
1980	3,645.69	1,907.86	2,507.8	2,068.49
1981	3,830.26	1,989.90	2,718.5	2,192.60
1982	4,025.66	2,075.46	2,946.9	2,324.16
1983	4,232.56	2,164.71	3,194.4	2,463.61
1984	4,451.69	2,257.79	3,462.7	2,611.43
1985	4,683.77	2,354.88	3,753.6	2,768.11
1986	4,929.60	2,456.14	4,068.9	2,934.20
1987	5,190.06	2,561.75	4,410.7	3,110.25
1988	5,462.73	2,671.90	4,781.2	3,296.87
1989	5,755.14	2,786.80	5,182.8	3,494.68
1990	6,065.04	2,906.63	5,618.2	3,704.36
1991	6,390.20	3,031.61	6,090.1	3,926.62
1992	6,738.34	3,161.97	6,601.6	4,162.22
1993	7,104.11	3,297.94	7,156.2	4,411.95
1994	7,495.36	3,439.75	7,757.3	4,676.67
1995	7,906.89	3,578.66	8,408.9	4,957.27
1996	8,343.43	3,741.93	9,115.3	5,254.70
1997	8,809.83	3,902.83	9,880.9	5,569.99
1998	9,301.15	4,070.65	10,710.9	5,904.18
1999	9,822.40	4,245.69	11,610.7	6,258.44
2000	10,375.44	4,428.25	12,586.0	6,633.94
	Assumptions regarding growth rates			
Value added in agri.	6.0			
Value added in mfg.	2.8			
Implied growth rates	5.36	4.30	8.39	6.0

4. Sri Lanka

Export performance of Sri Lanka has been the poorest in the South Asian Countries. Exports increased at less than one per cent per annum; declining in fact during the 1970-1975 period. It is difficult to list all the reasons for this poor performance of the export sector. It seems, though, that the very sluggish growth of the manufacturing sector may have been the main factor. Most of Sri Lanka's exports are agricultural, the demand for which tends to be inelastic. Hence a rapid growth of the manufacturing sector, coupled with relatively more outward-looking policies, should lead in future to higher growth rate of exports. For Sri Lanka, our model predicts an export growth of about 2.3 per cent. By comparison,

/Table 12.

Table 12. Projections of exports for India at 1975 prices

(in million US dollars)

Year	Based on estimates of econometric model and using growth rates of		Extrapolated at the annual compound growth rate on		Extrapolated by time trend during
	1960-1974	1970-1974	1960-1975	1970-1975	1960-1975
1980	7,449.43	7,177.67	9,586.8	9,809.3	8,368.67
1981	7,544.19	7,218.72	10,008.6	10,280.2	8,692.53
1982	7,641.49	7,260.26	10,449.0	10,773.6	9,028.93
1983	7,741.43	7,302.30	10,908.8	11,290.8	9,378.35
1984	7,840.33	7,348.54	11,388.8	11,832.7	9,741.30
1985	7,945.84	7,391.65	11,889.9	12,400.7	10,118.28
1986	8,054.18	7,438.91	12,412.0	12,995.9	10,509.86
1987	8,165.49	7,583.06	12,959.2	13,619.7	10,916.59
1988	8,279.90	7,527.77	12,529.4	14,273.5	11,339.06
1989	8,397.48	7,576.73	14,124.7	14,958.6	11,777.88
1990	8,518.34	7,622.59	14,746.2	15,676.6	12,233.69
1991	8,642.61	7,672.72	15,395.0	16,429.1	12,702.13
1992	8,770.36	7,719.77	16,072.4	17,217.7	13,198.90
1993	8,901.73	7,771.12	16,779.6	18,044.2	13,709.69
1994	9,036.84	7,823.11	17,517.9	18,910.3	14,240.26
1995	9,175.81	7,872.04	18,288.7	19,818.0	14,791.36
1996	9,318.75	7,925.33	19,093.4	20,769.2	15,363.78
1997	9,465.81	7,979.28	19,933.5	21,766.1	15,958.36
1998	9,617.13	8,030.23	20,810.6	22,810.9	16,575.95
1999	9,776.51	8,085.58	21,726.2	23,905.8	17,217.44
2000	9,936.75	8,141.63	22,682.2	25,053.3	17,883.75
	Assumption regarding growth rates				
Value added in agri.	2.5	0.7			
Value added in mfg.	4.0	2.4			
Implied growth rates	1.4	0.69	4.32	4.81	3.87

/Table 13.

Table 13. Projections of exports for Sri Lanka at 1975 prices

(in million US dollars)

Year	Based on estimates of econometric model and using growth rates of		Extrapolated at annual conpound growth rate on	Extrapolated by time trend during
	1960-1974	1970-1974	1960-1975	1960-1975
1980	757.49	763.41	747.7	776.29
1981	768.14	775.73	758.2	783.20
1982	779.59	789.20	768.8	790.17
1983	791.65	818.41	779.6	797.20
1984	804.63	818.92	790.5	804.30
1985	818.35	835.59	801.6	811.46
1986	832.90	853.52	812.8	818.68
1987	848.36	872.82	824.2	825.97
1988	864.61	893.60	835.7	833.32
1989	882.62	915.99	847.4	840.73
1990	901.40	940.16	859.3	848.22
1991	921.52	966.23	871.3	855.77
1992	943.36	994.64	883.5	863.38
1993	966.61	1,025,07	895.9	871.07
1994	991.85	1,058.21	908.4	878.82
1995	1,018.75	1,093.82	921.1	886.64
1996	1,048.04	1,132.58	934.0	894.53
1997	1,079.55	1,174.32	943.1	902.49
1998	1,113.79	1,219.79	960.4	910.52
1999	1,151.03	1,269.06	973.8	918.63
2000	1,191.37	1,322.48	987.4	926.80
Assumption regarding growth rates				
Value added in agri.	3.2	7.0		
Value added in mfg.	11.1	10.5		
Implied growth rate	2.30	2.78	1.39	0.89

Note: Export projections extrapolated by 1970-1975 growth rates are not reported, because the growth rate observed during the period is negative.

/Table 14.

Table 14. Projections of exports for Nepal at 1975 prices

Year	Based on econometric model and using growth rates of	Extrapolated at the annual compound growth rate on		Extrapolated by time trend during
	1970-1975	1965-1975	1970-1975	1965-1975
1980	203.21	155.8	209.9	151.57
1981	218.46	158.3	226.4	153.13
1982	231.45	160.8	244.1	154.71
1983	246.66	163.4	263.2	156.30
1984	259.61	166.0	283.8	157.91
1985	274.78	168.6	306.0	159.54
1986	289.95	171.3	330.0	161.18
1987	307.31	174.0	355.8	162.84
1988	322.42	176.8	383.7	164.52
1989	339.75	179.6	413.7	166.21
1990	357.06	182.4	446.1	167.93
1991	374.34	185.3	481.1	169.66
1992	391.57	188.3	518.7	171.40
1993	408.79	191.3	559.3	173.17
1994	428.22	194.3	603.1	164.52
1995	445.37	197.4	650.4	176.65
1996	464.73	200.6	710.3	178.57
1997	484.06	203.7	756.2	180.41
1998	503.34	207.0	815.4	182.27
1999	524.82	210.3	879.3	184.15
2000	544.02	213.6	948.1	186.05

Assumptions regarding growth rates

Value added in agri.	1.9			
Value added in mfg.	6.4			
Implied growth rates	5.04	1.62	7.83	1.03

Note: We have not reported projections based on econometric model for 1960-1975 because corresponding to the growth rates of agricultural & manufacturing sectors observed during the period, projected figures showed a deline in exports.

/during

during 1960-1975 period, exports increased only at a rate of 0.89 per cent only which may be a reflection of the inelasticity of demand for her exports. However, outward-looking policies, by raising export elasticity, should enable Sri Lanka to achieve a higher rate of exports in the future.

5. Nepal

Nepal's export performance has been only marginally better than Sri Lanka's, growing only a shade higher than one percept during the period 1960-1975. Nepal faces the same problem as Sri Lanka does. The growth of the agricultural sector has been sluggish and so has been the growth of the manufacturing sector. Coupled with an inelastic demand, this has led to a very poor export performance. Our projected figures show a growth rate of only 2.6 per cent as against 1 per cent in 1960-1975 period. However the export performance can be significantly improved via higher export elasticities induced by proper export-promoting policies are adopted.

IV. A SENSITIVITY ANALYSIS OF REGIONAL EXPORT PROJECTIONS

It should be clear from the analysis presented in last chapter that, unless some special measures are taken to accelerate the growth of exports, the growth rate of exports from the sub-region will not exceed 3.7 per cent (see table 9). When compared with the expected growth of imports into the sub-region at a rate of about 9 per cent, it should be obvious that systematic export promotion policies will have to be adopted, along with efforts to increase the production rates in the commodities producing sectors, in order to move the region closer to the goal of self-reliance. It is, therefore, essential to clearly understand the factors responsible for the poor growth performance of the sub-region.

A. FACTORS RETARDING THE GROWTH RATE OF EXPORT

Assuming that the international obstacles to regional export expansion remain unchanged in intensity during the 1980s, two main factors should explain slower growth of exports predicted by the model for the sub-region: (i) The gross national product in most of the countries in the sub-region may continue to grow at a sluggish rate; (ii) the values of the elasticity of export with respect to the value of output, which is an index of the extent to which a country has been inward-looking, may remain small.

/1.

1. Slower growth of GNP

Growth rates of agriculture during 1960-1975 were quite low in all the countries of the sub-region, with the exception of Bangladesh. Agricultural production grew at the disappointing rate of 3.6, 2.5, 3.2 and 1.9 per cent in Pakistan, India, Sri Lanka and Nepal respectively. Only in Bangladesh, the agricultural sector showed a higher growth rate, i.e. 6 per cent per annum. By contrast, the manufacturing sector fared better, with the exception of Bangladesh. The relevant growth rates are: 7.4, 4.0, 11.1, 6.4 and 2.8 per cent in Pakistan, India, Sri Lanka, Nepal and Bangladesh. It may be pointed out that the contribution of the manufacturing sector to GNP has been around 10 per cent in most countries of the region. These figures bring out clearly the slower growth of the economies of the region. If these trends continue, the exportable surplus will obviously be lower.

2. The extent of inwardness

Like most of the other developing countries, the South Asian Countries have pursued inward-looking policies. Heavy import duties coupled with the quantitative restrictions on imports resulted in the protection rates exceeding significantly the subsidies to exports. In general, there has been a definite bias in the government policies against export-oriented activities. This bias can be established most clearly by observing that export elasticities in the countries of the sub-region have been very low. Table 15 presents estimates derived from the econometric model (see table 7), of export elasticities with respect to the value added in the commodity-producing sectors:

Table 15. The index of "inwardness"

Country	Values of the export elasticity
Pakistan	1.32
Bangladesh	1.29
India	0.60
Sri Lanka	0.06
Nepal	-1.32

/Table

Table 15 makes it absolutely clear that the elasticities of exports with respect to values added in agricultural and manufacturing sectors have been extremely low, especially in the case of India and Sri Lanka. In the case of Nepal, it turned out to be negative! This probably is a reflection of very slow growth of commodity producing sectors coupled with inward-looking policies. Only in the case of Pakistan and that of Bangladesh does the elasticity exceed unity. The differential in the elasticities for the countries of the sub-region is a very clear index of the degree of "inwardness" of their respective policies, indicating clearly that the strategy pursued by India, Sri Lanka and Nepal has been highly inward-looking. By comparison, Pakistan and Bangladesh come out to be much more export-oriented. That India has been inward-looking can easily be explained, though not justified, by the relatively larger size of its domestic market. Harder to understand are the cases of Nepal and Sri Lanka, where the domestic markets are very small.

B. A POLICY OF EXPORT EXPANSION FOR INDIA, SRI LANKA AND NEPAL

It should, therefore, be clear that, as part of the policy package for the sub-region India, Sri Lanka and Nepal should pursue more outward-looking policies in order to achieve, as a first step, the elasticity of exports obtained for Pakistan (and by implication of Bangladesh). On this assumption, the required export growth rates have been estimated for India, Sri Lanka and Nepal.

A comparison of the projections reported in the first panel of table 16, with those given in the second panel, shows clearly that outward-looking policies should have a significant effect on exports. Exports grow at 6.3, 7.5, 9.5 per cent in case of India, Sri Lanka and Nepal respectively if outward-looking policies are pursued. These rates are significantly higher than those obtained without the help of such policies.[10/]

/Table 16.

10/ The differences in the absolute level of exports are even more striking.

Table 16. Sensitivity of projection of exports at 1975 prices for period 1980-2000 to the elasticity of exports using growth rates on 1970-1975

(in million US dollars)

Year	Assuming export elasticities of Pakistan			Assuming export elasticities of respective countries		
	India	Sri Lanka	Nepal	India	Sri Lanka	Nepal
1980	26,330.08	1,483.26	670.63	7,177.67	763.41	203.21
1981	26,591.08	1,552.87	698.35	7,218.72	775.73	218.46
1982	26,844.91	1,628.40	724.30	7,260.26	789.20	231.45
1983	27,125.45	1,709.81	752.96	7,302.30	803.41	246.66
1984	27,403.64	1,798.11	779.87	7,348.54	818.92	259.61
1985	27,680.55	1,893.63	809.55	7,391.65	835.59	274.78
1986	27,966.54	1,997.03	839.80	7,238.91	853.52	289.95
1987	28,253.37	2,108.96	872.86	7,483.06	872.82	307.31
1988	28,544.85	2,230.21	882,72	7,527.77	893.60	322.42
1989	28,844.76	2,361.55	935.58	7,576.73	915,99	339.75
1990	29,145.82	2,503.90	973.55	7,622.59	940.16	357.06
1991	29,455,54	2,658.22	1,009.24	7,672.72	966.23	374.34
1992	29,766.47	2,825.81	1,045.68	7,719.77	994.64	391.54
1993	30,086.29	2,007.39	1,082.90	7,771.12	1,025.07	408.79
1994	30,411.36	3,204.62	1,123.23	7,823.11	1,058.21	428.22
1995	30,738.14	3,418.49	1,162.17	7,872.04	1,093.82	445.37
1996	31,074.04	3,650.90	1,204.31	7,925.33	1,132.58	454.73
1997	31,415.53	3,903.12	1,247.40	7,979.28	1,174.32	484.06
1998	31,759.08	4,177.39	1,291.52	8,030.23	1,219.79	503.34
1999	32,112.13	4,475.44	1,338.97	8,085.58	1,269.06	524.82
2000	32,471.12	4,799.45	1,385.39	8,141.63	1,322.48	544.02
Assumption regarding growth rates						
Value added in agri.	0.7	7.0	1.9			
Value added in mfg.	2.4	10.5	6.4			
Implied growth rates	6.28	7.47	9.47	0.69	2.78	5.04

/Table 17.

Table 17. Sensitivity of the projections of exports at 1975 prices to the growth rates commodity producing sector

(Based on estimated reported in table 6)

Year	Using planned growth rates		Using 1970-1975 growth rates		Using 1960-1975 growth rates	
	Pakistan	India	Pakistan	India	Pakistan	India
1980	3,823.57	5,741.40	2,796.87	7,177.67	3,343.04	7,449.43
1981	4,115.52	7,656.42	2,826.52	7,218.72	3,506.98	7,544.19
1982	4,433.23	7,775.12	2,853.37	7,260.26	3,678.30	7,641.49
1983	4,782.44	7,901.32	2,880.91	7,302.30	3,864.69	7,741.43
1984	5,158.46	8,027.84	2,912.69	7,348.54	4,059.86	7,840.39
1985	5,567.41	8,162.18	2,941.71	7,391.65	4,268.08	7,945.84
1986	6,011.61	8,279.16	2,974.97	7,438.91	4,494.35	8,054.18
1987	6,495.65	8,440.30	3,005,46	7,483.06	4,730.66	8,165.49
1988	7,021.36	8,584.43	3,036.77	7,527.77	4,983.33	8,279.90
1989	7,592.92	8,737.12	3,072.36	7,576.73	5,252.78	8,397.48
1990	8,210.80	8,894.85	3,105.26	7,622.59	5,540.07	8,518.34
1991	8,886.37	9,057.86	3,138.97	7,672.72	5,846.40	8,642.61
1992	9,620.88	9,222.67	3,173.54	7,719.77	6,172.95	8,770.36
1993	10,419.51	9,3936.88	3,212.47	7,771.12	6,521.99	8,901.73
1994	11,284.43	9,577.05	3,248.79	7,823.11	6,892.24	9.036.83
1995	12,228.82	9,763.41	3,285.99	7,872.04	7,287.91	9,175.81
1996	13,255.96	9,956.22	3,324.10	7,925.33	7,709.71	9,318.75
1997	14,373.19	10,155.75	3,366.69	7,979.28	8,159.41	9,465.81
1998	15,585.08	10,362.30	3,406.70	8,030.23	8,638.83	9,617.13
1999	16,907.46	10,576.14	3,447.69	8,085.58	9,142.94	9,776.51
2000	18.3[illegible]6.48	10,797.60	3,489.69	8,141.63	9,694.99	9,936.75
Assumptions regarding planned growth rates						
Value added in agri.	6.0	2.76	0.7	0.7	3.6	2.5
Value added in mfg.	[illegible].0	5.03	2.3	2.4	7.4	4.0
Implied growth rates	8.15	1.81	1.16	0.69	5.40	1.4

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For the sake of comparison, the impact of the increased growth rates of commodity producing sectors on the growth of exports has also been estimated on the basis of planned growth rates of agricultural and manufacturing sectors. Results of this exercise are reported in table 17, which by comparison with those reported in table 16, clearly show that exports are much more sensitive to outward-looking policies than they are to the growth rates of GNP.

It may be pointed out that even in case of Pakistan and Bangladesh where the elasticity of exports with respect to value added in the commodity producing sectors exceeds unity, exports are expected to grow at only 3.7 per cent in the absence of vigorous export policies, which will be insufficient to meet the increasing demand for imports, expected to grow at an annual compound rate of over 9 per cent. Therefore, in Pakistan and Bangladesh also, the respective governments will have to pursue more active policies encourage exports.

/v.

V. SUMMARY AND CONCLUSION

The main results of our exercise can easily be summarized. The basic finding of the study is that despite an increasing "weight" of export incentives, the countries of the sub-region have, on the margin, favoured import substitution by comparison with export expansion. Furthermore, measured by the relative magnitude of their export elasticities some countries of the region have been more "inward-looking" than others: Nepal, Sri Lanka and India are the most "inward-looking" in that order. This is understandable for India, which has a large domestic market, but can hardly be explained for either Sri Lanka and Nepal, both of which have very small domestic markets. Relatively speaking, Pakistan and Bangladesh come out to be much more export-oriented. However, this is a matter of degree only. On the margin, Pakistan has also, by and large, pursued import substituting policies. The same holds true for Bangladesh.

It is interesting to compare the export performance of the countries of sub-region, over time. The following table, based on the findings of chapter III, brings out the relevant comparison with clarity:

Table 18. Compound growth rates and projected rates of exports for the sub-region

Country	Trend growth rate over 1960-1975	Projected growth rates based on the econometric model	
		Assuming no change in export policies	Assuming that India, Nepal and Sri Lanka pursue outward policies similar to those of Pakistan and Bangladesh
Pakistan	12.04	3.70	-
India	3.87	1.40	6.28
Bangladesh	6.00	5.80	-
Sri Lanka	0.89	2.30	7.47
Nepal	1.03[a/]	2.62	9.47

Note: a/ Growth rates for Nepal are for the period 1965-1975.

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It may be noted that the third column has been estimated on the assumption that export elasticities of India, Nepal and Sri Lanka will rise via the adoption of relatively more outward-looking policies. The excess of the estimates in column (3) over those of column (2) is explained by the difference between the respective elasticities in these countries over Pakistan's (and Bangladesh) and that between the growth rates of the commodity-producing sector. This also explains the differential export growth rates for the three countries.

Another important fact, which comes out by comparing columns (1) and (2), is that, even for Pakistan, the least inward-looking country of the sub-region, there is a considerable fall in the expected export growth rates over the past performance; and the same holds for India. In the case of Pakistan, the sharp reduction in the export growth rates is explained by the fact that the incentive effects of the promotional measures taken in the past must have worked themselves out. This points to the need for additional export effort even to maintain past growth rates - one has to do all the running to stay at the same place! India, in particular, has to cover lot of mileage along the road of export expansion.

Bangladesh, Nepal and Sri Lanka are expected to be doing better, since in the absence of unfavourable demand factors, the adverse effects of low export inelasticity will be alleviated to a greater degree than in the case of India and Pakistan. This is because of the fact that the size of the manufacturing sector has been relatively very small in these countries. Thus the effects of an increase in the growth rates of the commodity-producing sector on export elasticity will be magnified to that extent.

A. REGIONAL PRIORITIES FOR 1980S

(i) The need for a more vigorous export policy should be underscored by the fact that the expected regional growth rate of exports 3.7 per cent per annum (table 9) is not enough to generate strong impetus either for GNP growth or to provide an effective solution of the balance of payments problem of the region. An important result of the study, not intuitively obvious, is that a higher growth rate of the commodity-producing sectors will not by itself suffice to push out enough exports to meet the rising import bill. Special export-

/promoting

promoting policies will have to be pursued to achieve respectable growth rates for exports. This is all the more recommended for India, Sri Lanka and Nepal whose "export pessimism" has been the most intense. Pakistan and Bangladesh, who appeared to have done much better by comparison with the other countries of the sub-region, will also need to make a better export effort.

The experience of the period since 1953 has indicated that both export expansion and import substitution efforts have been characterized by somewhat "chaotic" handling and none of these have been free of the taint of inefficiency. Yet, on balance, export expansion efforts have paid off more in terms of inducing a more effective capacity utilization than import substitution activity, because the former have greater chances of exploiting the economies of scale that the latter lack. This conclusion should set the pace of the trade policies during the coming decade. This is all the more essential because investment in the region has become dependent on imported capital goods; but imports are a function of export growth.

It may be noted that the importance of achieving high rates of export growth is not only to meet the rising import bill. Developing countries in general and, with the exception of India, the countries in the sub-region in particular are of small size. Hence industries where economies of large scale production are a pre-condition for the establishment of optimal sized plants are either not established or are operated very inefficiently even if they get established due to the excessively high degree of protection in the region. Exports, by enlarging substantially the size of the domestic market, can enable the establishment of such industries on an efficient basis.

This strategy is all the more recommended because of the lower capital/output ratio that will result, which is a distinct advantage in view of the extreme scarcity of capital in these countries (At present, the capital/output ratios are quite high in the sub-region. It is about 3.8 to 1 in the case of Pakistan). Furthermore, the export industries to be really competitive in the international market must be intensive in the use of the country's most abundant factor. Hence, an export-oriented policy will also result in lower capital/labour ratios, which is again socially desirable in view of the high rates of unemployment prevalent in these countries. Thus, in general, a policy of export-led growth can be confidently recommended for the region.

/This

This would, however, imply much more than equalizing, on the margin, the incentives between export expansion and import substitution. Export-led growth recommends going beyond "policy-neutrality". It would require increasing the incentive to export expansion by comparison with import substitution: a complete reversal of the policies followed so far. True, this policy reversal may also introduce distortions in resource allocation; but will be a substantial improvement over the present situation in terms of inducing a more competitive and efficient pattern of industrailization in these countries. The growth rates of GNP will also be helped. Once a momentum is created in this direction growth rates of exports and of GNP will interact to pull each other in the upward direction.

(ii) A vigorous export expansion will, however, require that proper promotional policies be adopted to achieve this objective. In particular, the desirable effects of export subsidization efforts flowing from devaluations in the sub-region, should be consolidated to ensure that no relapse occurs to the pre-liberalization state. This is no unfounded fear. For instance, it has been noted in several recent studies that, of the twenty two devaluations that occurred, in thirteen cases "the real exchange rate moved back to, or below, pre-devaluation levels within six months to two years of the devaluation". The principal factor: poor demand management policies. During the next Development Decade there should be a greater synchronization of trade policy with monetary and fiscal policies.

(iii) It stands to reason that slightly under-valued exchange rates will restrain import demand and help exports and lessen the dependence on foreign borrowing in so far as foreign resource inflows have sustained over-valued exchange rates. It may be noted here that, contrary to what the elasticity pessimists will have us believe, export expansion has shown a unitary elasticity with respect to percent changes in the exchange rate. However, this line of reasoning, based mainly on Japan's experience, can't be pushed too far - if only to avoid excessive price inflation in the post-devaluation period, such as occurred in the case of Pakistan, which also undercuts the export incentive. Thus the ideal policy may be to devalue by less than what may appear to be the equilibrium exchange rate, and then undertake a selective programme of export subsidization - mainly through cash subsidies.

/(iv)

(iv) It follows from the above discussion that reliance on the QR regimes should be reduced to correct unproductive biases in resource allocation. This will also necessitate a major rethinking, at the policy making level, about the best choice of policy instruments to attain the desired policy objective.

(v) However, the case against import substitution should not be overstated. It can be very fruitfully carried out in agriculture. For instance, it is now well known that foodgrain imports, particularly those under the PL-480, have militated against the goal of self-sufficiency in agriculture even when it has been both technically and economically feasible. Such dependence, particularly because it has been used by the developed countries for ulterior political goals, is highly undesirable. Even from a purely economic point of view, agricultural development extends effectively the size of the domestic market for manufactured goods and provides a reserve fund to finance industrial development. The next decade must see a continuation and accentuation of the recent desirable moves towards agricultural self-sufficiency.

Import substitution has another highly fruitful dimension: expertise formation and technical research. In most cases developing countries can ill-afford the very expensive foreign "experts". Furthermore, technical research must investigate the development of a more technically efficient labour-intensive production technique. This will help employment generation and reduce greatly the dependence on imported capital. It can be shown that the foreign-exchange gap and the saving-investment gap are highly sensitive (in a negative direction) to even very small changes in the capital/output ratios. Furthermore, the low wage costs will make the exports of these countries highly competitive. One can learn a lot from Japan's and Republic of Korea's experience.

/Appendix table 1.

Appendix table 1. Pakistan

(in million US dollars)

Year	Exports	Unit value index	Value added in agriculture	Value added in manufacturing	World exports
1960	138.9	24.0	1,616.6	478.6	119,400.0
1961	143.5	33.0	1,716.6	542.2	124,500.0
1962	235.9	30.0	1,806.1	602.9	132,100.0
1963	254.1	23.0	1,851.5	671.4	143,400.0
1964	266.0	23.0	1,948.7	738.2	160,900.0
1965	285.8	26.0	1,957.6	801.7	164,700.0
1966	312.2	27.0	2,064.9	847.1	180,800.0
1967	383.5	28.0	2,307.1	901.0	189,500.0
1968	384.9	26.0	2,411.3	978.8	211,900.0
1969	389.6	25.0	3,353.8	1,462.8	243,500.0
1970	419.8	27.0	3,410.9	1,575.4	280,100.0
1971	708.3	27.0	3,767.6	1,599.8	314,200.0
1972	1,796.5	44.0	4,602.3	1,977.9	372,600.0
1973	2,134.7	70.0	5,900.6	2,577.9	518,800.0
1974	2,161.0	98.0	7,041.8	3,491.2	769,000.0
1975	2,364.0	100.0	8,194.1	3,951.3	788,500.0

Sources: United Nations, Year Book for Asia and Pacific 1974, 1975, 1976; and International Monetary Fund, International Financial Statistics, May 1978.

Note: $US = Rs 4.77 .

/Appendix table 2.

Appendix table 2. India

(in million US dollars)

Year	Exports	Unit value index	Value added in agriculture	Value added in manufacturing	World exports
1960	1,328.7	33.0	14,570.2	3,878.4	119,400.0
1961	1,383.9	34.0	15,220.1	4,633.1	124,500.0
1962	1,400.8	32.0	15,534.6	5,178.2	132,100.0
1963	1,622.9	32.0	18,008.4	5,974.8	143,400.0
1964	1,704.0	32.0	21,949.7	6,624.7	160,900.0
1965	1,683.4	34.0	21,488.5	7,002.1	164,700.0
1966	2,421.8	45.0	25,534.6	7,631.0	180,800.0
1967	2,536.1	52.0	31,823.9	8,155.1	189,500.0
1968	2,768.8	49.0	31,320.8	8,721.2	211,900.0
1969	2,885.3	53.0	34,465.4	10,230.6	243,500.0
1970	3,186.2	52.0	37,044.0	11,195.0	280,100.0
1971	3,198.3	53.0	38,260.0	12,180.3	314,200.0
1972	3,831.7	58.0	40,817.6	13,459.1	372,600.0
1973	4,742.1	71.0	55,492.7	15,304.0	518,800.0
1974	6,663.7	90.0	61,467.5	19,916.1	769,000.0

Sources: United Nations, Year Book for Asia and Pacific 1974, 1975, 1976; and International Monetary Fund, International Financial Statistics, May 1978.

/Appendix table 3.

Appendix table 3. Bangladesh

(in million US dollars)

Year	Exports	Unit value index	Value added in agriculture	Value added in manufacturing	World exports
1960	90.8	100.00	1,057.0	312.9	119,400.0
1961	93.8	174.06	1,122.4	354.5	124,500.0
1962	154.2	134.34	1,180.9	394.2	132,100.0
1963	166.1	118.88	1,210.6	439.0	143,400.0
1964	173.9	116.37	1,274.2	482.7	160,900.0
1965	186.8	138.67	1,279.9	524.2	164,700.0
1966	204.1	133.70	1,350.1	553.8	180,800.0
1967	250.8	166.63	1,508.5	589.1	189,500.0
1968	251.7	137.51	1,576.6	640.0	211,900.0
1969	254.7	134.08	2,192.9	956.5	243,500.0
1970	274.5	132.92	2,230.2	1,030.1	280,100.0
1971	463.1	191.87	2,463.5	1,046.0	314,200.0
1972	1,174.6	237.93	3,009.2	1,293.3	372,600.0
1973	1,395.8	290.27	3,857.7	1,685.6	518,800.0
1974	1,413.0	394.77	4,604.3	2,282.7	769,000.0

Sources: United Nations, Year Book for Asia and Pacific 1974, 1975, 1976; and Mohiuddin Alamgir and Lodewijk J.J.B. Berlace, Bangladesh National Income and Expenditure.

Appendix table 4. Sri Lanka

(In million US dollars)

Year	Exports	Unit value index	Value added in agriculture	Value added in manufacturing	World exports
1960	348.9	61.0	611.3	67.9	119,400.0
1961	364.1	56.0	614.1	70.4	124,500.0
1962	379.8	55.0	626.9	75.6	132,100.0
1963	363.6	55.0	601.5	115.1	143,400.0
1964	394.1	56.0	626.1	129.4	160,900.0
1965	409.5	57.0	611.5	142.4	164,700.0
1966	375.1	54.0	627.9	143.0	180,800.0
1967	355.0	50.0	667.9	171.2	189,500.0
1968	427.5	59.0	811.1	209.7	211,900.0
1969	402.5	59.0	838.2	227.3	243,500.0
1970	424.6	59.0	891.6	244.5	280,100.0
1971	408.8	59.0	888.0	263.2	314,200.0
1972	407.3	59.0	966.4	332.5	372,600.0
1973	525.4	69.0	1,223.5	467.9	518,800.0
1974	736.1	107.0	1,656.7	517.2	769,000.0

Sources: United Nations, Year Book for Asia and Pacific 1974, 1975, 1976; and IMF, International Finance Statistics, May 1978.

Appendix table 5. Nepal

(in million US dollars)

Year	Exports	Unit value index	Value added in agriculture	Value added in manufacturing	World exports
1965	57.8	47.0	479.5	58.8	164,700.0
1966	49.2	54.0	629.1	75.7	180,800.0
1967	56.0	51.0	563.3	70.0	189,500.0
1968	51.6	57.0	640.8	82.0	211,900.0
1969	75.1	60.0	703.0	98.2	243,500.0
1970	64.2	65.0	777.8	103.4	280,100.0
1971	60.6	68.0	792.7	107.5	314,200.0
1972	81.0	75.0	931.1	130.6	372,600.0
1973	86.5	82.0	1,011.0	142.0	518,800.0
1974	91.6	90.0	1,190.0	171.1	769,000.0
1975	144.0	100.0	1,305.6	217.6	788,500.0

Sources: United Nations, Year Book for Asia and Pacific 1974, 1975, 1976; and IMF International Monetary Fund, International Finance Statistics, May 1978.